CLAIMS:

What is claimed is:

1   1.   A method comprising:

2   transmitting a first broadcast message in a broadcast channel at a first specific

3   time within a first assigned slot of a predetermined frame from a first base station of a

4   radio communications system, the first broadcast message including a broadcast

5   information sequence;

6   transmitting a second broadcast message in the broadcast channel at a second

7   specific time within a second assigned slot of the predetermined frame from a second

8   base station of the radio communications system, the second broadcast message including

9   a broadcast information sequence; and

10   receiving a message from a user terminal having a timing relationship with the

11 predetermined frame; and

12   determining the base station to which the message is directed based on the timing

13 relationship.

1   2.   The method of Claim 1, further comprising transmitting broadcast

2   messages in the broadcast channel at further specific times within further assigned slots

3   of a predetermined frame from further base stations of the radio communications system,

4   the further broadcast messages including a broadcast information sequence.

1   3.   The method of Claim 1, wherein the predetermined frame is a repeating

2   frame.

1   4.   The method of Claim 1, wherein the specific transmission times are

2   determined based on a common timing reference received by each base station.

1   5.   The method of Claim 4, wherein the common timing reference is a

2   satellite clock transmission received by a satellite receiver at each base station.

1   6.   The method of Claim 1, wherein the broadcast information sequence

2   includes a code to identify the base station.

1   7.   The method of Claim 6, wherein the code to identify the base station

2   comprises a base station color code.

1   8.   The method of Claim 1, wherein the broadcast information sequence

2   includes a power sequence that is related to the power used to transmit the broadcast

3   message.

1   9.   The method of Claim 1, wherein the broadcast information sequence

2   includes a load sequence that is related to the current traffic load at the base station.

1   10.   A method comprising:

2   receiving a first broadcast message in a broadcast channel at a first specific time

3   within a first assigned slot of a predetermined frame from a first base station of a radio

4   communications system, the first broadcast message including a broadcast information

5   sequence;

6   receiving a second broadcast message in the broadcast channel at a second

7   specific time within a second assigned slot of the predetermined frame from a second

8   base station of the radio communications system, the second broadcast message including

9   a broadcast information sequence; and

10   transmitting a message from a user terminal having a timing relationship with the

11   predetermined frame, the timing relationship indicating the base station to which the

12   message is directed.

1   11.   The method of Claim 10, further comprising receiving broadcast messages

2   in the broadcast channel at further specific times within further assigned slots of a

3   predetermined frame from further base stations of the radio communications system, the

4   further broadcast messages including a broadcast information sequence.

1   12.   The method of Claim 10, wherein the predetermined frame is a repeating

2   frame.

1   13.   The method of Claim 10, wherein the specific transmission times are

2   determined based on a common timing reference received by each base station.

1   14.   The method of Claim 13, wherein the common timing reference is a

2   satellite clock transmission received by a satellite receiver at each base station.

1   15.   The method of Claim 10, wherein the broadcast information sequence

2   includes a code to identify the base station.

1   16.   The method of Claim 15, wherein the code to identify the base station

2   comprises a base station color code.

1   17.   The method of Claim 10, wherein the broadcast information sequence

2   includes a power sequence that is related to the power used to transmit the broadcast

3   message.

1   18.   The method of Claim 10, wherein the broadcast information sequence

2   includes a load sequence that is related to the current traffic load at the base station.

1   19.   A machine-readable medium having stored thereon data representing

2   sequences of instructions which, when executed by a machine, cause the machine to

3   perform operations comprising:

4   transmitting a first broadcast message in a broadcast channel at a first specific

5   time within a first assigned slot of a predetermined frame from a first base station of a

6   radio communications system, the first broadcast message including a broadcast

7   information sequence;

8   transmitting a second broadcast message in the broadcast channel at a second

9   specific time within a second assigned slot of the predetermined frame from a second

10   base station of the radio communications system, the second broadcast message including

11   a broadcast information sequence; and

12   receiving a message from a user terminal having a timing relationship with the

13   predetermined frame; and

14   determining the base station to which the message is directed based on the timing

15   relationship.

1   20.   The medium of Claim 19, the instructions causing the machine to perform

2   further operations comprising transmitting broadcast messages in the broadcast channel at

3   further specific times within further assigned slots of a predetermined frame from further

4   base stations of the radio communications system, the further broadcast messages

5   including a broadcast information sequence.

1   21.   The medium of Claim 19, wherein the specific transmission times are

2   determined based on a common timing reference received by each base station.

1   22.   The medium of Claim 19, wherein the broadcast information sequence

2   includes a code to identify the base station.

1   23.   The medium of Claim 19, wherein the broadcast information sequence

2   includes a power sequence that is related to the power used to transmit the broadcast

3   message.

1   24.   The medium of Claim 19, wherein the broadcast information sequence

2   includes a load sequence that is related to the current traffic load at the base station.

1   25.   A machine-readable medium having stored thereon data representing

2   sequences of instructions which, when executed by a machine, cause the machine to

3   perform operations comprising:

4   receiving a first broadcast message in a broadcast channel at a first specific time

5   within a first assigned slot of a predetermined frame from a first base station of a radio

6   communications system, the first broadcast message including a broadcast information

7   sequence;

8   receiving a second broadcast message in the broadcast channel at a second

9   specific time within a second assigned slot of the predetermined frame from a second

10   base station of the radio communications system, the second broadcast message including

11   a broadcast information sequence; and

12   transmitting a message from a user terminal having a timing relationship with the

13   predetermined frame, the timing relationship indicating the base station to which the

14   message is directed.

1   26.   The medium of Claim 25, the instructions causing the machine to perform

2   further operations comprising transmitting broadcast messages in the broadcast channel at

3   further specific times within further assigned slots of a predetermined frame from further

4   base stations of the radio communications system, the further broadcast messages

5   including a broadcast information sequence.

1   27.   The medium of Claim 25, wherein the broadcast information sequence

2   includes a code to identify the base station.

1   28.   The medium of Claim 25, wherein the broadcast information sequence

2   includes a power sequence that is related to the power used to transmit the broadcast

3   message.

1   29.   The medium of Claim 25, wherein the broadcast information sequence

2   includes a load sequence that is related to the current traffic load at the base station.

1   30.   An apparatus comprising:

2   a first transmitter at a first base station of a radio communications system to

3   transmit a first broadcast message in a broadcast channel at a first specific time within a

4   first assigned slot of a predetermined frame, the first broadcast message including a

5   broadcast information sequence;

6   a second transmitter at a second base station of the radio communications system

7   to transmit a second broadcast message in the broadcast channel at a second specific time

8   within a second assigned slot of the predetermined frame, the second broadcast message

9   including a broadcast information sequence; and

10   a receiver at the first and second base stations, respectively to receive a message

11   from a user terminal, the message having a timing relationship with the predetermined

12   frame, indicating the base station to which the message is directed.

1   31.   The apparatus of Claim 30, further comprising further transmitters of

2   further base stations of the radio communications system to transmit further broadcast

3   messages in the broadcast channel at further specific times within further assigned slots

4   of the predetermined frame, the further broadcast messages including a broadcast

5   information sequence.

1   32.   The apparatus of Claim 30, wherein the first and the second base stations

2   further comprise a timing reference receiver to receive a timing reference common to the

3   first base station and the second base station.

1   33.   The apparatus of Claim 30, wherein the broadcast information sequence

2   includes a code to identify the base station.

1   34.   The apparatus of Claim 30, wherein the broadcast information sequence

2   includes a power sequence that is related to the power used to transmit the broadcast

3   message.

1   35.   The apparatus of Claim 30, wherein the broadcast information sequence

2   includes a load sequence that is related to the current traffic load at the base station.

1   36.   An apparatus comprising:

2   means for transmitting a first broadcast message in a broadcast channel at a first

3   specific time within a first assigned slot of a predetermined frame from a first base station

4   of a radio communications system, the first broadcast message including a broadcast

5   information sequence;

6   means for transmitting a second broadcast message in the broadcast channel at a

7   second specific time within a second assigned slot of the predetermined frame from a

8   second base station of the radio communications system, the second broadcast message

9   including a broadcast information sequence; and

10   means for receiving a message from a user terminal having a timing relationship

11 with the predetermined frame; and

12   means for determining the base station to which the message is directed based on

13 the timing relationship.

1   37.   The apparatus of Claim 36, further comprising means for transmitting

2   broadcast messages in the broadcast channel at further specific times within further

3   assigned slots of a predetermined frame from further base stations of the radio

4   communications system, the further broadcast messages including a broadcast

5   information sequence.

1   38.   The apparatus of Claim 36, means for receiving a common timing

2   reference and means for determining the specific transmission times based on the

3   common timing reference.

1   39.   The apparatus of Claim 36, wherein the broadcast information sequence

2   includes a code to identify the base station.

1   40.   The apparatus of Claim 36, wherein the code to identify the base station

2   comprises a base station color code.

1   41.   The apparatus of Claim 36, wherein the broadcast information sequence

2   includes a power sequence that is related to the power used to transmit the broadcast

3   message.

1   42.   The apparatus of Claim 36, wherein the broadcast information sequence

2   includes a load sequence that is related to the current traffic load at the base station.

1   43.   A broadcast channel in a radio communications system, the channel

2   comprising:

3   a repeating frame shared by a plurality of base stations, the frame having a

4   plurality of slots, each base station being assigned to a slot;

5   a predetermined timing assigned to each slot, so that each slot of the frame is

6   synchronized at all base stations;

7   a broadcast burst message for each base station, for transmission in the respective

8   assigned slot, the burst message having a broadcast information sequence; and

9   an uplink request channel having a plurality of slots to allow a user

10   terminal to request a traffic channel, each slot of the uplink request channel having a

11   timing relationship with the slots of the repeating frame so that the timing relationship

12   indicates the base station to which the traffic channel request is directed.

1   44.   The channel of Claim 43, wherein the broadcast information sequence

2   includes a code to identify the transmitting base station.

1   45.   The channel of Claim 43, wherein the predetermined timing is based on a

2   common timing reference received by each base station.

1   46.   The channel of Claim 45, wherein the common timing reference is a

2   satellite clock transmission received in a satellite receiver at each base station.

1   47.   The channel of Claim 43, further comprising a frequency hopping

2   sequence.

1   48.   A method for accessing a wireless network, comprising:

2   receiving a plurality of timing sequences on a broadcast channel, each timing

3   sequence being received from a different one of a plurality of base stations;

4   determining network timing using the received timing sequences;

5   selecting one from among the plurality of base stations using the received timing

6   sequences;

7   transmitting a message indicating the base station selection, the message having a

8   timing relationship with a selected one of the timing sequences wherein the timing

9   relationship indicates the base station to which the message is directed.

1   49.   The method of Claim 48, wherein the timing sequences are received with

2   at least one frequency and wherein the method further comprises using the received

3   timing sequences to determine a base station selection message frequency based on the

4   frequency of the received timing sequences.

1   50.   The method of Claim 48, wherein the message is transmitted

2   omnidirectionally.

1   51.   The method of Claim 48, wherein the timing sequences are synchronized

2   based on a common timing reference received by each base station.

1   52.   The method of Claim 51, wherein the common timing reference is a

2 satellite clock transmission received in a satellite receiver at each base station.

1   53.   The method of Claim 48, further comprising receiving base station

2 identifiers on the broadcast channel, the base station identifiers each being associated

3 with a respective timing sequence and using the base station identifiers to distinguish

4 broadcasts from different base stations on the broadcast channel.

1   54.   The method of Claim 53, wherein transmitting a base station selection

2 message further comprises transmitting a base station identifier.

1   55.   The method of Claim 48, wherein transmitting a base station selection

2 message further comprises transmitting an identifier of the transmitter.

1   56.   A machine-readable medium having stored thereon data representing

2 sequences of instructions which, when executed by a machine, cause the machine to

3 perform operations comprising:

4   receiving a plurality of timing sequences on a broadcast channel, each timing

5 sequence being received from a different one of a plurality of base stations;

6   determining network timing using the received timing sequences;

7   selecting one from among the plurality of base stations using the received timing

8 sequences;

9   transmitting a message indicating the base station selection, the message having a

10 timing relationship with a selected one of the timing sequences wherein the timing

11 relationship indicates the base station to which the message is directed.

1   57.   The medium of Claim 56, wherein the timing sequences are received with

2   at least one frequency, the instructions further causing the machine to perform operations

3   comprising using the received timing sequences to determine a base station selection

4   message frequency based on the frequency of the received timing sequences.

1   58.   The medium of Claim 56, the instructions causing the machine to perform

2   further operations comprising synchronizing the timing sequences based on a common

3   timing reference received by each base station.

1   59.   The medium of Claim 56, the instructions causing the machine to perform

2   further operations comprising receiving base station identifiers on the broadcast channel,

3   the base station identifiers each being associated with a respective timing sequence and

4   using the base station identifiers to distinguish broadcasts from different base stations on

5   the broadcast channel.

1   60.   The medium of Claim 56, wherein transmitting a base station selection

2   message further comprises transmitting a base station identifier.

1   61.   The medium of Claim 56, wherein the instructions for transmitting a base

2   station selection message further comprise instructions causing the machine to perform

3   operations comprising transmitting an identifier of the transmitter.